

WHAT IS CLAIMED IS

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1. A service providing apparatus comprising:
a service providing section to provide services,
said service providing section comprising:

an authentication information managing section
10 to manage authentication information related to the
services and having a term of validity;

an extension request accepting section to
accept an extension request to extend the term of
validity of the authentication information; and

15 an authentication information updating section
to extend the term of validity of the authentication
information depending on the extension request.

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2. The service providing apparatus as claimed
in claim 1, wherein said authentication information
managing section manages, in a related manner, the
25 authentication information, information related to a

request source which makes the extension request to extend the term of validity of the authentication information, and an authority to extend the term of validity of the authentication information.

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3. The service providing apparatus as claimed
10 in claim 1, wherein said authentication information managing section manages, in a related manner, the authentication information, information related to a request source which made a creating request to create the authentication information, information related to a
15 request source which makes the extension request to extend the term of validity of the authentication information, and an authority to extend the term of validity of the authentication information.

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4. The service providing apparatus as claimed
in claim 1, wherein said authentication information
25 updating section judges whether or not a request source

which made the extension request to extend the term of
validity of the authentication information has an
authority to extend the term of validity, and extends
the term of validity of the authentication information
5 when it is judged that the request source has the
authority to extend the term of validity.

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5. The service providing apparatus as claimed
in claim 1, wherein said authentication information
updating section judges whether or not a request source
which made the extension request to extend the term of
15 validity of the authentication information has an
authority to extend the term of validity, extends the
term of validity of the authentication information when
it is judged that the request source has the authority
to extend the term of validity, and creates new
20 authentication information including the extended term
of validity.

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6. The service providing apparatus as claimed
in claim 1, wherein said authentication information
managing section manages the authentication information
and an extended term of validity of the authentication
5 information in a related manner.

10 7. The service providing apparatus as claimed
in claim 1, wherein said authentication information
managing section manages the authentication information
and a number of times the term of validity of the
authentication information is extended in a related
15 manner.

20 8. The service providing apparatus as claimed
in claim 1, wherein said service providing section
further comprises a extension response sending section
to send an extension response including an identifier
for identifying the authentication information having
25 the term of validity extended by said authentication

information updating section and the term of validity of the authentication information.

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9. The service providing apparatus as claimed in claim 1, wherein said service providing section further comprises a monitoring section to monitor the term of validity of the authentication information.

15 10. The service providing apparatus as claimed in claim 1, wherein said service providing section further comprises a notifying section to notify information related to the term of validity of the authentication information to a request source which made a creating request to create the authentication information.

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11. A service providing method to provide services, comprising:

an authentication information managing step to manage authentication information related to the

5 services and having a term of validity;

an extension request accepting step to accept an extension request to extend the term of validity of the authentication information; and

an authentication information updating step to
10 extend the term of validity of the authentication information depending on the extension request.

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12. The service providing method as claimed in claim 11, wherein said authentication information managing step manages, in a related manner, the authentication information, information related to a
20 request source which makes the extension request to extend the term of validity of the authentication information, and an authority to extend the term of validity of the authentication information.

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13. The service providing method as claimed
in claim 11, wherein said authentication information
managing step manages, in a related manner, the
authentication information, information related to a
5 request source which made a creating request to create
the authentication information, information related to a
request source which makes the extension request to
extend the term of validity of the authentication
information, and an authority to extend the term of
10 validity of the authentication information.

15 14. The service providing method as claimed
in claim 11, wherein said authentication information
updating step judges whether or not a request source
which made the extension request to extend the term of
validity of the authentication information has an
20 authority to extend the term of validity, and extends
the term of validity of the authentication information
when it is judged that the request source has the
authority to extend the term of validity.

15. The service providing method as claimed
in claim 11, wherein said authentication information
updating step judges whether or not a request source
which made the extension request to extend the term of
5 validity of the authentication information has an
authority to extend the term of validity, extends the
term of validity of the authentication information when
it is judged that the request source has the authority
to extend the term of validity, and creates new
10 authentication information including the extended term
of validity.

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16. The service providing method as claimed
in claim 11, wherein said authentication information
managing step manages the authentication information and
an extended term of validity of the authentication
20 information in a related manner.

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17. The service providing method as claimed

in claim 11, wherein said authentication information
managing step manages the authentication information and
a number of times the term of validity of the
authentication information is extended in a related
5 manner.

10 18. The service providing method as claimed
in claim 11, further comprising:

 a extension response sending step to send an
extension response including an identifier for
identifying the authentication information having the
15 term of validity extended by said authentication
information updating step and the term of validity of
the authentication information.

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 19. The service providing method as claimed
in claim 11, further comprising:

 a monitoring step to monitor the term of validity
25 of the authentication information.

20. The service providing method as claimed in claim 1, further comprising:

5 a notifying step to notify information related to the term of validity of the authentication information to a request source which made a creating request to create the authentication information.

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21. A computer-readable storage medium which stores a program for causing a computer to provide services, said program comprising:

15 an authentication information managing procedure causing the computer to manage authentication information related to the services and having a term of validity;

20 an extension request accepting procedure causing the computer to accept an extension request to extend the term of validity of the authentication information; and

25 an authentication information updating procedure causing the computer to extend the term of validity of the authentication information depending on the extension request.

22. A service providing apparatus comprising:
an integrated services providing section to provide
integrated services of one or a plurality of services
provided by a service providing section,

5 said integrated services providing section
comprising:

 a creating request sending section to send an
authentication information creating request requesting
creation of authentication information which has a term
10 of validity and is related to a service provided by a
first service providing section within said service
providing section, with respect to the first service
providing section;

 a response receiving section to receive from
15 the first service providing section an authentication
information creation response including an
authentication information identifier for identifying
the authentication information and the term of validity
of the authentication information; and

20 an extension request sending section to send
an extension request requesting extension of the term of
validity of the authentication information, with respect
to the first service providing section.

23. The service providing apparatus as
claimed in claim 22, wherein the extension request
includes the authentication information identifier for
identifying the authentication information and a
5 requested extension time.

10 24. The service providing apparatus as
claimed in claim 23, wherein the extension request
further includes an identifier for identifying the
integrated services providing section.

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25. The service providing apparatus as
claimed in claim 22, wherein said integrated services
20 providing section further comprises an authentication
information managing section to manage the
authentication information identifier for identifying
the authentication information and the term of validity
of the authentication information.

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26. The service providing apparatus as
claimed in claim 22, wherein said integrated services
providing section further comprises an extension
response receiving section to receive from the first
5 service providing section an extension response
including an authentication information identifier for
identifying authentication information having an
extended term of validity and an extended term of
validity.

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27. The service providing apparatus as
15 claimed in claim 25, wherein said authentication
information managing section further manages an
authentication information identifier for identifying
authentication information having an extended term of
validity and an extended term of validity.

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28. The service providing apparatus as
25 claimed in claim 22, wherein said integrated services

providing section further comprises a session request
sending section to send with respect to a second service
providing section within said service providing section,
other than the first service providing section, a
5 session request requesting start of a session and
including the authentication information identifier for
identifying the authentication information.

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29. The service providing apparatus as
claimed in claim 28, wherein said integrated services
providing section further comprises a session response
15 receiving section to receive from the second service
providing section a session response indicating the
start of the session and including a session identifier
for identifying the session.

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30. The service providing apparatus as
claimed in claim 28, wherein said integrated service
25 providing section further comprises a session managing

section to manage a session identifier for identifying the session.

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31. The service providing apparatus as claimed in claim 22, wherein said integrated service providing section further comprises a notification receiving section to receive from the first service providing section a term of validity information notification including information related to the term of validity of the authentication information.

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32. The service providing apparatus as claimed in claim 22, wherein said integrated service providing section further comprises a monitoring section to monitor the term of validity of the authentication information.

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33. A service providing method for an integrated services providing section which provides integrated services of one or a plurality of services provided by a service providing section, comprising:

- 5 a creating request sending step to send an authentication information creating request requesting creation of authentication information which has a term of validity and is related to a service provided by a first service providing section within said service providing section, with respect to the first service providing section;
- 10 a response receiving step to receive from the first service providing section an authentication information creation response including an authentication information identifier for identifying the authentication information and the term of validity of the authentication information; and
- 15 an extension request sending step to send an extension request requesting extension of the term of validity of the authentication information, with respect to the first service providing section.
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34. The service providing method as claimed
in claim 33, wherein the extension request includes the
authentication information identifier for identifying
the authentication information and a requested extension
5 time.

10 35. The service providing method as claimed
in claim 34, wherein the extension request further
includes an identifier for identifying the integrated
services providing section.

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36. The service providing method as claimed
in claim 33, further comprising:
20 an authentication information managing step to
manage the authentication information identifier for
identifying the authentication information and the term
of validity of the authentication information.

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37. The service providing method as claimed
in claim 33, further comprising:

an extension response receiving step to receive
from the first service providing section an extension
5 response including an authentication information
identifier for identifying authentication information
having an extended term of validity and an extended term
of validity.

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38. The service providing method as claimed
in claim 36, wherein said authentication information
15 managing step further manages an authentication
information identifier for identifying authentication
information having an extended term of validity and an
extended term of validity.

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39. The service providing method as claimed
in claim 33, further comprising:
25 a session request sending step to send with respect

to a second service providing section within said
service providing section, other than the first service
providing section, a session request requesting start of
a session and including the authentication information
5 identifier for identifying the authentication
information.

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40. The service providing method as claimed
in claim 39, further comprising:

a session response receiving step to receive from
the second service providing section a session response
15 indicating the start of the session and including a
session identifier for identifying the session.

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41. The service providing method as claimed
in claim 39, further comprising:

a session managing step to manage a session
identifier for identifying the session.

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42. The service providing method as claimed
in claim 33, further comprising:

a notification receiving step to receive from the
first service providing section a term of validity
5 information notification including information related
to the term of validity of the authentication
information.

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43. The service providing method as claimed
in claim 33, further comprising:

a monitoring step to monitor the term of validity
15 of the authentication information.

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20 44. A computer-readable storage medium which
stores a program for causing a computer to provide
integrated services of one or a plurality of services
provided by a service providing section, comprising:

a creating request sending procedure causing the
25 computer to send an authentication information creating

request requesting creation of authentication
information which has a term of validity and is related
to a service provided by a first service providing
section within said service providing section, with
5 respect to the first service providing section;

a response receiving procedure causing the computer
to receive from the first service providing section an
authentication information creation response including
an authentication information identifier for identifying
10 the authentication information and the term of validity
of the authentication information; and

an extension request sending procedure causing the
computer to send an extension request requesting
extension of the term of validity of the authentication
15 information, with respect to the first service providing
section.

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